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10 September 1981

USSR Report

AGRICULTURE

No. 1296

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MAJOR CROP PROGRESS AND WEATHER REPORTING

STATUS OF LITHUANIAN SSR GRAIN HARVEST AS OF 3 AUGUST 1981

Vilnius SOVETSKAYA LITVA in Russian 5 Aug 81 p 1

[Report by Central Statistical Administration for the Lithuanian SSR: "Principal Concern -- Tempo and Quality"]

[Text] The tempo of the harvest work has accelerated considerably in many rayons and on many farms as the weather has improved. During the past few days, the most intensive harvesting of grain crops has been carried out on farms in Alitusskiy, Varenskiy, Vil'nyusskiy, Prenayskiy, Shvenchenskiy and Shal'chininkskiy Rayons, where during a period of 4 days 13-16 percent of the grain crops were harvested. However, this work is still not being carried out in an organized or rapid manner in all of the rayons or on all of the farms. The grain combines on farms in Anikshchyayskiy, Radvilishkskiy, Kupishkskiy, Vilkavishkskiy and a number of other rayons are not being operated in a sufficiently productive manner. At the present time, with favorable weather prevailing, high work rates must be achieved on each farm. The farm leaders and specialists are under an obligation to ensure that all of the combines are operated for extended work days, that they are properly serviced and that all defects are corrected.

Simultaneously with carrying out the harvest work, the straw must be gathered up and the stubble removed. Nevertheless, on many farms in Akmyanskiy, Klaypedskiy, Kretingskiy and Plungeskiy Rayons the gathering up of the straw is being dragged out and in Birzhayskiy, Ionishkskiy, Rokishkskiy, Radvilishkskiy, Mazheykskiy and a number of other rayons -- the removal of the stubble.

In all areas the high work rates must be accompanied by high quality work. At the same time, special importance is being attached to accounting for and preserving the crops in the proper manner. The grain being delivered to the storehouses must be weighed accurately and cleaned and dried out without delay.

A great amount of concern is being aroused over the fact that on many farms very little attention has been given to preparing the soil for the winter crops. This work must first of all be accelerated by the farms in Shirvintskiy, Shvenchenskiy, Moletskiy and Klaypedskiy Rayons, where only 37-46 percent of the soil has been made ready for the winter crops.

Although the principal attention at the present time is being concentrated on harvesting the grain crops, nevertheless increased attention must henceforth be

On Harvesting and Procuring Feed on Farms in the Lithuanian SSR as of 3 August 1981 (% of plan fulfillment)

Rayons	Harvesting of Grain and Pulse Crops	Grain Yield in Quintals, Per Hectare of Thrashed Area	Stacked Straw, (in % of Thrashed Area)	Removal of Stubble	Thrashing of Perennial Grass Seed	Plowing of Soil for Winter Crops	Harvesting After-growth of Crops and Perennial Grasses	Feed Procurements for Animal Husbandry, in Feed Units Per Standard Head		Hay Procurements for Public Animal Husbandry	Prepared Silage Obtained	Artificially Dehydrated Green Feed Produced
								Total	For a Week			
A	1	2	3	4	5	6	7	8	9	10	11	12
Republic totals	16	-	51	6	47	62	40	6.6	0.4	81	20	71
Akmyanskiy	5	21.0	10	0.3	55	52	17	6.0	0.3	81	21	92
Alitusskiy	39	21.0	69	21	35	73	33	5.4	0.6	108	16	62
Anikshchyayskiy	12	24.2	44	5	22	66	36	6.4	0.4	96	8	74
Birzhayskiy	14	26.9	46	3	50	58	46	6.2	0.5	89	7	53
Varenskiy	42	21.6	76	28	50	56	36	6.0	0.5	106	40	35
Vilkavishkskiy	15	28.2	49	9	44	87	61	7.3	0.3	56	24	99.6
Vil'nyusskiy	27	20.9	67	11	25	57	29	5.7	0.5	74	19	81
Zarasayskiy	23	18.5	35	5	26	65	17	6.3	0.2	97	30	59
Ignalinskiy	13	17.5	25	0.2	30	55	36	6.3	0.2	79	20	73
Ionavskiy	25	24.0	63	10	43	68	69	5.9	0.6	82	8	81
Ionishkskiy	13	30.6	41	3	61	58	56	6.4	0.5	88	12	60
Kapsukskiy	23	30.3	39	6	37	78	22	5.7	0.1	87	12	57
Kaunasskiy	22	32.0	55	9	43	78	34	8.0	0.8	102	32	74
Kaishyadorskiy	29	21.3	57	8	43	57	26	6.9	0.9	106	26	65
Kedaynskiy	18	30.9	49	3	49	66	43	6.4	0.5	78	25	64
Kel'meskiy	9	21.0	35	1	57	59	40	7.1	0.4	81	18	73
Klaypedskiy	6	23.4	19	2	40	46	43	6.0	0.2	67	13	105
Kretingskiy	9	28.1	16	1	42	52	55	7.3	0.4	88	17	71
Kupishkskiy	15	22.9	51	4	35	56	34	6.2	0.3	69	21	72
Lazdiyskiy	27	19.8	63	11	52	60	26	6.3	0.1	108	17	92
Mazheykskiy	6	19.8	-	0.1	50	72	38	5.8	0.3	78	21	92
Moletskiy	19	19.8	39	6	39	46	51	5.2	0.2	82	17	84
Pakruoyskiy	18	27.5	59	3	53	70	34	6.5	0.4	81	15	92
Panevezhskiy	14	27.0	55	5	32	69	40	7.8	0.4	110	20	107
Pasval'skiy	19	36.0	56	5	53	63	40	6.2	0.4	80	7	77
Plungeskiy	6	19.3	5	1	78	51	30	6.3	0.4	91	30	82
Prenayskiy	29	23.7	64	17	60	68	42	6.1	0.5	89	24	118
Radvilishkskiy	11	31.5	41	-	74	49	38	7.0	1.0	52	23	63

(Table continued)

A	1	2	3	4	5	6	7	8	9	10	11	12
Raseynskiy	10	23.8	35	2	52	64	35	6.4	0.3	55	20	75
Rokishkskiy	10	21.9	30	1	23	68	53	7.2	0.4	75	19	77
Skuodasskiy	5	22.6	27	1	34	78	30	6.6	0.3	104	26	105
Tauragskiy	10	19.6	44	2	36	55	39	8.2	1.2	67	44	84
Tel'shyayskiy	3	20.9	21	0.1	39	62	35	8.0	0.4	89	31	85
Trakayskiy	24	17.1	63	7	35	52	32	6.5	0.6	101	26	57
Ukmergskiy	16	21.9	45	6	49	65	33	6.3	0.3	78	16	70
Utenskiy	20	18.2	43	5	27	62	42	6.1	0.1	92	20	76
Shakyayskiy	20	25.6	61	10	36	62	46	6.5	0.3	50	32	70
Shvenchenskiy	21	20.7	57	6	56	45	43	6.1	0.2	71	13	75
Shilal'skiy	4	21.0	4	0.3	52	77	95	7.5	0.2	81	15	99.3
Shilutskiy	10	23.4	47	3	57	52	51	8.4	0.6	56	23	53
Shirvintskiy	22	18.9	43	9	40	37	31	7.1	0.3	68	33	63
Shyaulyayskiy	9	27.3	34	1	59	74	40	6.3	0.3	78	22	97
Shal'chininkskiy	34	19.3	58	13	55	53	41	4.3	0.6	77	2	46
Yurbarkskiy	14	24.1	52	4	62	66	27	7.4	0.1	81	26	67

Central Statistical Administration of Lithuanian SSR

given to the feed procurement problem. Special importance is being attached to accelerating the harvesting and ensiling of the annual crops and also harvesting the aftergrowth of cultivated meadows and perennial grasses. The potential is available on all of the farms for carrying out the plans for hay procurements and also for obtaining other grass feeds.

7026
CSO: 1824/405

MAJOR CROP PROGRESS AND WEATHER REPORTING

STATUS OF LITHUANIAN SSR GRAIN HARVEST AS OF 6 AUGUST 1981

Vilnius SOVETSKAYA LITVA in Russian 8 Aug 81 p 1

[Article: "To Accelerate the Harvest and To Gather Up Each Ear"]

[Text] Clear and favorable weather prevails for the harvest operations. As the saying goes, the sun is pouring down upon the earth. Approximately one third of the grain crops has already been harvested in the republic. The combine operators, other machine operators and the equipment servicing teams are all performing their tasks in an efficient manner. A high output was recently achieved by the combines -- 50,000 or more hectares being harvested daily, with 5.2-5.6 hectares of grain crops being cut down by one combine. The work rates are even higher in Ionishkskiy, Kretingskiy, Varenskiy and some other rayons. Although the grain crops have ripened later on a majority of the farms in the Zhemaytiyskaya Zone and in the rayons of northern Lithuania, nevertheless the grain growers here are overcoming this difficulty.

However, some alarming facts are at hand. For a number of days in a row now, 1,000-1,100 combines have not moved out onto the republic's fields for operations. During this period, large numbers of them lay idle in Pakruoyskiy, Birzhayskiy, Vilkavishkskiy, Kel'meskiy and some other rayons.

"What action must be taken to ensure that during this decisive period of the harvest campaign all of the equipment is being operated in a productive and rhythmic manner and with no equipment idle time?" An answer to this question, raised by a correspondent of EL'TA [Lithuanian Telegraph Agency], was provided by the 1st Deputy Minister of Agriculture S. Vasilyauskas:

"Such a situation cannot be tolerated. The proper conclusions must be drawn by the organizations which service agriculture and also by the leaders and specialists of individual farms. Moreover, in some areas the combines commence their work day late and terminate it too early. As a result, much valuable time is being wasted."

At the present time, there are ample amounts of ripe grain crops in all of the rayons and thus the harvesting of these crops must not be postponed for either a day or an hour. In August, the days will begin to grow shorter and before long the work will be hampered by morning dew and fog. Finally, we do not know just how many fine days we have remaining.

On Harvesting and Procuring Feed on Farms in the Lithuanian SSR as of 6 August 1981 (% of plan fulfillment)

Rayons	Harvesting of Grain and Pulse Crops	Grain Yield, in Quintals Per Hectare of Thrashed Area	Removal of Stubble	Harvesting of Aftergrowth of Cultivated Haying Lands and Perennial Grasses	Dehydrated Green Feed Produced Artificially
A	1	2	3	4	5
Republic totals	29	-	11	49	72
Akmyanskiy	16	20.7	3	19	92
Alitusskiy	54	20.9	32	41	64
Anikshchyayskiy	26	23.8	11	48	74
Birzhayskiy	26	26.7	8	49	54
Varenskiy	60	21.5	44	45	35
Vilkavishkskiy	28	27.8	13	65	100.8
Vil'nyusskiy	42	21.0	14	36	81
Zarasayskiy	39	17.7	8	25	59
Ignalinskiy	25	17.5	4	45	74
Ionavskiy	39	23.4	16	75	82
Ionishkskiy	28	30.2	9	65	61
Kapsukskiy	38	30.1	15	24	57
Kaunasskiy	37	31.0	14	50	78
Kaishyadorskiy	43	21.3	16	32	66
Kedaynskiy	32	30.4	11	60	65
Kel'meskiy	21	20.6	5	52	77
Klaypedskiy	19	22.5	7	56	106
Kretingskiy	25	26.1	7	62	72
Kupishkskiy	26	22.5	10	43	72
Lazdiyskiy	42	20.1	17	34	94
Mazheykskiy	16	19.4	4	52	94
Moletskiy	34	20.0	12	63	84
Pakruoyskiy	30	26.7	7	39	93
Panevezhskiy	24	26.1	11	46	109
Pasval'skiy	30	35.1	11	46	78
Plungeskiy	19	19.9	5	37	83
Prenayskiy	45	23.5	26	55	120
Radvilishkskiy	22	29.7	9	46	64
Raseynskiy	21	22.8	5	43	76
Rokishkskiy	24	21.5	8	61	78
Skuodasskiy	17	22.5	4	53	107
Tauragskiy	23	18.7	7	48	85
Tel'shyayskiy	15	19.0	1	40	85
Trakayskiy	36	17.4	12	42	59
Ukmergskiy	29	21.1	13	40	70
Utenskiy	35	18.4	10	51	76
Shakyayskiy	32	25.2	16	53	71
Shvencheyskiy	34	20.4	14	56	75
Shilal'skiy	18	19.8	6	108	99.4

(Table continued)

A	1	2	3	4	5
Shilutskiy	22	21.8	8	63	55
Shirvintskiy	34	18.6	17	46	64
Shyaulyayskiy	20	26.3	7	43	97
Shal'chininkskiy	48	19.2	19	53	47
Yurbarkskiy	26	22.3	9	34	67

Central Statistical Administration of Lithuanian SSR

On many farms, the harvesting of the straw is being dragged out. It bears mentioning onee again that the straw must be harvested in a high quality manner and placed in storage for feed purposes. The straw harvesting brigades must follow in the wake of the combines. It must be stacked in a neat manner, since if it is not the stacks will be penetrated by rainfall. In many areas, no haste is being displayed in removing the stubble.

It is recommended that the seed plots be harvested in an efficient manner and during the best periods. First of all, seed funds should be laid away for the winter crops. In recent years, we have suffered from a lack of sufficient pulse crop seed. Thus this year a portion of the annual grasses, together with a considerable admixture of pulse crops intended for feed, should be left for seed purposes and the plans for procuring them should be fulfilled and over-fulfilled. In all areas, the seed plants for perennial grasses should be harvested at more rapid rates.

Only a brief period of time remains before the sowing of the winter crops. Unfortunately, only approximately two thirds of the areas intended for these crops have been plowed and in some rayons -- even less. Thus the plowing work must be accelerated considerably. This is a concern of the agricultural administrations and the farm leaders and specialists.

The ensiling of the annual grasses must commence as rapidly as possible. Special importance is being attached to carrying out the plans for hay production.

There is truly a great amount of work to be carried out. But it can be handled successfully provided a disciplined and exacting approach is employed in all areas, good initiative encouraged and carelessness and neglect -- condemned.

7026
CSO: 1824/405

BRIEF

LITHUANIAN GRAIN HARVEST--The farms in Shal'chininkskiy, Alitusskiy and Varenskiy Rayons, the first to commence the grain harvesting campaign, have already gathered in 13-17 percent of their grain crops. At the present time, there are already ripe grain crops on each farm and thus the harvest work can no longer be postponed. Special importance is being attached to ensuring that a maximum tempo and high quality work are maintained from the very first days of this campaign. In order to accelerate the harvest operations, good work organization is required in all areas and proper use must be made of each hour of favorable weather. The combines must not be allowed to stand idle owing to a shortage of transport vehicles and, to the extent that it is possible, more productive use must be made of the dryers, grain cleaning machines and forced ventilation units. The dryers must be operated around-the-clock. Special attention must be given to the seed-breeding plots and to the cleaning, drying and storing of the seed. On many farms, insufficient attention is being given to preparing the soil for the sowing of winter crops. This important work must not be postponed until a later time. [by Ministry of Agriculture for Lithuanian SSR] [Excerpts] [Vilnius SOVETSKAYA LITVA in Russian 29 Jul 81 p 1] 7026

CSO: 1824/405

LIVESTOCK FEED PROCUREMENT

FLOATING FACTORY PROCESSES FEED RESOURCES FROM WATER

Moscow SOTSIALISTICHESKAYA INDUSTRIYA in Russian 27 Jul 81 p 1

[Article by A. Lyakhov, Tomsk: "The Plant Weighs Anchor"]

[Text] Haying time has arrived on the expanses of Siberia. From day to day, the number of machines and entire mechanized units grows on the meadows of the krays and oblasts. The merciless sun and hot dry winds from the south are forcing the people to hurry: they have to harvest the most succulent grasses with the highest calorie content that were untouched by drought.

These days a flotilla sets its course for the water meadows of Poymennyy Sovkhoz in Tomskaya; it specializes in the procurement of fodder. This is no slip of the tongue, for this is truly a flotilla, consisting of floating plants for the production of granulated grass flour.

A.S. Zarembo, the secretary of Tomskiy CPSU Obkom, described how these plants operate to our correspondent:

"First of all, this is truly a plant, a combine, if you wish, an entire technological complex, developed, designed and built by Tomsk agricultural and river workers and specialists and workers of the Moryakovskiy Ship-Repair and Shipbuilding Plant. It consists of a barge with a load capacity of 2,000 tons on which there are installed an electric power plant with a capacity of 630 kilowatts, a machine shop, a pumping section, tanks for storage of fuel and most important--a unit for the production of one and a half tons per hour of vitamin flour with mechanisms for transforming this flour into granules.

"Moreover, the floating plant has on board a whole arsenal of hay-harvesting equipment: tractors, a bulldozer, dumpers, grass mincer, large-load carts for hauling it, loaders and so on. A barge is attached to the plant; the produced output is loaded on it and then delivered by water to receiving stations of enterprises for the preparation of mixed feeds.

"Service personnel are located on another barge; they consist of 30 persons from farms engaged in the procurement. Comfortable housing, a dining room and a location for mass political measures are to be found here."

"Would it not be simpler to locate this equipment at permanent enterprises?

"You see, it is necessary here to take into account the special features of the region. Tremendous fodder resources are concentrated, for example, in the Ob' flood plain from south to north. More than one and a half million hectares of meadows, covered with grasses possessing, according to specialists, high qualities, truly constitute priceless wealth. But it is not so easy to use them: spring floods, a multitude of shallow small rivers and rivulets, tiny lakes provide a barrier in the way of this wealth.

"Just three years ago workers in agriculture, river transport and the Moryakovskiy Ship-Repair and Shipbuilding Plant had an idea: would it not be possible to get feed resources from water? The party obkom approved the initiative. Under the control and with the aid of party and operational organs, a group of specialists and workers embodied the idea in metal. In the summer of 1978, the first such plant, named Tomichem, appeared. Last year it gained a brother plant, produced at the same enterprise.

"Special constructed gangplanks allowed the equipment to be lowered from deck and assume operation on the expanses. Should any water barriers get in the way--bulldozers quickly build a dike and open a front for the hay-harvesting machines. The cut grass is concentrated on the bank close to the barge and cranes feed it to the technological equipment. Usually an area of 500-600 hectares is mowed, and the plant then moves further north according to grass maturation."

"Do you have followers?"

"Yes, last year Krasnoyarskites equipped such a vessel-plant. Taking into consideration the accumulated experience, a decree was adopted to produce during this five-year plan such floating enterprises for maximum utilization of the fodder lands of the flood rivers of Western Siberia, the Far East and the European part of the country."

7697
CSO: 1824/411

LIVESTOCK FEED PROCUREMENT

NONCHERNOZEM ZONE FORESTED AREA RECOMMENDED AS FEED SOURCE

Moscow EKONOMICHESKAYA GAZETA in Russian No 19, Apr 81 p 19

[Article by F. Makarenko and G. Rukosuyev, candidates of economic sciences: "An Additional Source of Feed"]

[Text] In any large forested area in the Russian nonchernozem zone, one always finds tree-cleared areas, vacant land, underbrush, bushes, sparse plantings of little value and small glades with grass vegetation. There are millions of hectares of such land, but they furnish very little output in view of the fact that they are not employed for economic purposes. A portion of such areas, especially in the forests of kolkhozes and sovkhozes, is used for providing pastures for livestock. But this land as a rule produces very little feed. Yet all of the mentioned lands could in fact furnish considerable assistance to the feed base of farms if they were employed in a wise manner.

In this regard, the experience accumulated at the Moscow area Kommunarka Sovkhoz, where all of the forest glades were converted into long-term cultivated haying and pasture lands, warrants attention and dissemination on an extensive scale. In the process the forest tract was protected and its soil-protective and sanitary-hygienic role raised. First of all, the sovkhoz's forestry scientists and specialists thoroughly inspected 1,120 hectares of the forest area. On 480 hectares, they terminated the grazing of livestock and commenced the carrying out of forest husbandry measures, since valuable forest vegetation was available here. Forest areas were singled out here as having definite value for soil-protective and reservoir purposes and also for valuable plantings. Seven hundred and forty hectares were set aside for use as cultivated park-like pastures; this included tree-cleared areas, glades, bushes, sparse plantings and underbrush consisting of tree types of low-value. A great amount of work was carried out on this area in connection with the removal of stumps, diseased and low-value trees and bushes. In addition, mineral fertilizers were applied to these areas and thereafter they were sown in meadow grasses. The agricultural practices were developed as well as the rules for operating and tending the park-like pastures.

And the sovkhoz began obtaining from these cultivated haying and pasture lands 12-14 tons of nutritional fodder per hectare, instead of 10-12 quintals as was the case prior to the production experiment. Moreover, the productivity of some of the park-like pastures turned out to be even higher than that obtained from open tracts, since a more favorable microclimate was created here: more damp soil and air, less evaporation and less fluctuations in the daily temperature. Under such conditions, the grasses grow much more rapidly.

The application of fertilizers in optimum dosages, together with a more favorable microclimate, made it possible to raise by a factor of 10 the productivity of the haying and pasture lands and, on this basis, to increase the production of animal husbandry products. They began sowing leguminous and cereal grasses on the tamed forest haying lands at the farm. At the same time, the quality of the feed improved, its protein content was raised and its per hectare yield was raised by a factor of 1.5.

In developing animal husbandry on farms in the nonchernozem zone, it is obvious that use must be made of the forest fund lands and especially the forests of sovkhozes and kolkhozes, since almost one half of these areas is occupied at the present time by low productivity lands. By no means are sufficient measures being carried out aimed at taming these lands and thus a large portion of them is being employed ineffectively. Moreover, the excessive grazing of livestock causes harm to the forest economy and to the protection of nature. Unfortunately, the scientific research organizations are not devoting proper attention to this problem. The time is at hand for utilizing a considerable portion of the forest areas in an intensive manner and for creating a scientifically sound system for converting them into long-term cultivated haying and pasture lands.

7026
CSO: 1824/389

LIVESTOCK FEED PROCUREMENT

MIXED SILAGE EFFECTIVE, ECONOMICAL FEED FOR SWINE

Moscow SEL'SKAYA ZHIZN' in Russian 11 Aug 81 p 2

[Article by Ye. Makhayev, candidate of agricultural sciences: "How Good Is Mixed Feed?"]

> [Text] The inclusion of succulent and green feed in the rations for swine is making it possible to utilize grain concentrates in a more economical and efficient manner.

Many kolkhozes and sovkhozes prefer to feed grain concentrates to their swine. At the same time, a traditional feed such as root crops is being employed less and less despite the fact that it is well known that swine are capable of using quite well not only concentrated but also succulent feed.

On those farms which are developing swine raising based upon the use of internally produced feed, importance is attached to establishing a structure for the area under crops and to selecting forage crops which will promote the production of the greatest amount of meat for each hectare of land. The specialists are aware that when cultivating potatoes, beets, carrots or perennial leguminous grasses in zones of adequate moisture or on irrigated lands, it is possible to obtain one and a half to three times more feed units from each hectare of arable land than from grain crop sowings. This underscores the advisability of making greater use of succulent and green feed in the rations for swine.

But root crops do not store well and their nutrient losses reach 30 or more percent. Mixed silage is another matter entirely. If the same root crops are introduced into its structure, then the losses are reduced by several times. If a correct selection is made of those components which ensure good ensiling and an optimum moisture content, then high quality feed is obtained which, when combined with concentrates, fully meets the physiological requirements of the animals. It can be employed not only on farms but also at swine raising complexes.

Mixed silage for swine must meet definite requirements. For example, a kilogram of it must contain no less than 0.25 feed units, 20 grams of protein and 10-20 milligrams of carotene. And the amount of cellulose must not exceed 3-5 percent. Good mixed silage will contain 1.5-1.8 percent lactic acid, 0.5-0.6 acetic acid and absolutely no butyric acid. The edibility of the mixed silage must be such that it satisfies 40-50 percent of the energy requirements of the swine. Although succulent and green feed can constitute up to 50 percent of the nutritional value in the rations for sows and fattened swine, they must not exceed 10-15 percent in the rations for suckling pigs and those being weaned away from the sows.

The mixed silage is prepared from feed rich in carbohydrates and carotene. In the nonchernozem zone the chief components can be potatoes, root crops, the aftergrowth of leguminous grasses (clover and alfalfa), field kale and hay or grass meal. In the chernozem zone the mixed silage includes root crops, corn ears, feed potatoes, alfalfa fodder, grass and hay meal and also clean beet tops. In the more southern regions the mixture consists of corn ears in the stage of milky-waxy ripeness, fodder gourds and watermelons, alfalfa fodder, root crops and beet tops. The mixed silage for swine usually contains (by weight) 60-70 percent root crops, 25-30 percent leguminous grass fodder and 5-10 percent hay or grass meal.

Grass or hay meal and in their absence meal obtained from straw are introduced for the purpose of ensuring better retention of the nutrients in the succulent feeds (their juice is absorbed in the meal), normalizing the ensiling processes and lowering the acidity level of the prepared feed. The mixed silage must have an average moisture content on the order of 60-70 percent. Science has developed recipes for such feed for various zones of the country. Allow me to cite some of these (in percentages):

1. Potatoes -- 70, leguminous grass fodder -- 30;

2. Potatoes -- 40, root crops -- 20, leguminous grass fodder -- 30 grass meal -- 10;

3. Potatoes -- 60, root crops with haulm -- 30, chaff (peas, clover) -- 10;

4. Root crops -- 70, potatoes -- 20 and grass meal -- 10 percent.

When procuring mixed silage, the potatoes and root crops are carefully cleansed of all dirt and if there is a great amount of contamination -- they are washed. All feed, with the exception of potatoes, is ensiled in damp form. The potatoes must necessarily be steamed since this serves to raise the effectiveness of their use by 20 percent. The silage bulk is minced well (the size of the particles must not exceed one half centimeter). This requires the use of an APK-10 unit installed on runners. It washes the root crops and minces and mixes the ensiled feed. Use can also be made of MKS-5 and MRR-5 wash and root-cutters, RSS-6 silage cutters and the multi-purpose IKU-5 feed mincer. The ears of corn are minced using UDK-1 or DKU-2 grinders.

The mixed silage is stored in lined trenches that are separated by prefabricated partitions into sections which hold sufficient silage for feeding to the animals over a period of from 10-15 days. Upon being placed in a trench, the feed mixture is immediately tamped down (and especially so near the walls), so as to force the air out more completely and prevent the appearance of mould. Once filled, the pit is covered by a polyethylene film and heated using a 30-50 centimeter layer of straw cuttings or chaff, or baled straw. In order to obtain good silage and especially during all types of weather and without too much labor, sheds are installed over the trenches.

Here are the results of special experiments. Swine which were provided with up to 50 percent mixed silage consisting of boiled potatoes and grass meal added weight at the rate of 617 grams daily. Moreover, the feed expenditure per kilogram of weight increase was 4.6 feed units.

Mixed silage does not require additional preparation. It is supplied to barren and pregnant sows at the rate of 4-6 kilograms daily, to suckling sows -- 6-8, to grown fattened swine -- 3-6 and to young suckling pigs -- at the rate of 1-1.5 kilograms daily. It is recommended that 7-10 tons of mixed silage be procured for each sow with offspring and at fattening farms -- at the rate of 8-10 quintals per head. Each feed unit must contain 7 grams of calcium, 6 grams of phosphorus and 5 grams of common salt.

Many farms are aware of the value of mixed silage. For example, 3.3 tons of such silage are being procured for each sow in the Mariyskaya and Mordovskaya ASSR's, in Belgorodskaya Oblast -- 2.7 and in Kurskaya and Rostovskaya Oblasts -- 2.3-2.5 tons. It is being employed extensively by the kolkhozes and sovkhozes in Lithuania. At the Kolkhoz imeni Kapsukas in Kapsukskiy Rayon, for example, 4.7 tons of mixed silage are being procured per sow and at the Kolkhoz imeni Chernyakhovskiy in the same rayon -- 3.2 tons.

The experience of these farms warrants dissemination on an extensive scale. Indeed, each ton of mixed silage introduced into a swine ration system provides a savings of 250 kilograms of concentrates and makes it possible to produce 50 additional kilograms of pork.

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SYSTEM OF HIGH-GRADE HOG FEEDING DISCUSSED

Moscow SVINOVODSTVO in Russian No 7, Jul 81 pp 12-14

/Article by A. Mysik, doctor of agricultural sciences, All-Union Academy of Agricultural Sciences imeni V. I. Lenin: "Organization of Rational Hog Feeding"/

/Text/ An evaluation of the food value of fodder and of the rationing of feeding according to the entire set of irreplaceable food factors, not according to some one indicator of food value, or a limited set of such indicators, is the distinctive feature of the system of rational feeding. This makes it possible to increase the efficiency of fodder utilization.

In high-grade feeding in hogs about 25 percent of the gross energy of fodder is utilized for the formation of output (protein and fat in gain, growth and development of fetuses and milk and sperm output) and more than 75 percent of it is used unproductively (on maintaining the vital functions of the body).

The highest coefficient of utilization of fodder energy is observed in sucking hogs (about 50 percent). With age it decreases and by the age of 6½ months comprises 24 percent. Farrow sows utilize the gross energy of fodder at the rate of 28 percent, milking sows, 34 percent and sire boars, 35 percent.

The new system of rationing of hog feeding envisages a certain amount of dry substance of the fodder or ration, according to which the volume of the fodder ration and the concentration of metabolizable energy and of other food elements per kg of dry substance are determined.

The completeness of fodder protein is characterized by the presence and ratio of its components--amino acids. Normal hog feeding requires more than 20 amino acids, but ten of them are considered irreplaceable, because they cannot be synthesized in the body. They include arginine, histidine, isoleucine, leucine, lysine, methionine, phenylalanine, threonine, tryptophan and valine. A deficiency of protein as a whole or of one of the irreplaceable acids in hog rations leads to a disturbance in metabolism, destruction of muscular tissue and retardation of growth.

The protein feeding of hogs must be rationed with due regard for the amount of crude and digestible protein, as well as its quality in terms of the content and correct ratio of irreplaceable amino acids. Hogs, especially young ones, are very sensitive to a deficiency of irreplaceable amino acids and, in particular, of lysine, methionine-cystine and tryptophan, which are considered critical.

Carbohydrates comprise about 75 percent of the dry substance of most plant fodder. In hog feeding out of a large number of carbohydrates only cellulose is rationed, because it is difficult to digest. Its excess amount lowers the digestibility and assimilation of the ration's nutrients. However, a low content of cellulose in a ration is also undesirable, because gastric ulcer can develop.

A total of 2 to 3 percent are considered the optimum content of cellulose in the rations of sucking hogs, 3 to 4 percent, of runners, 4 to 5 percent, of fattened young stock, 5 to 6 percent, of young replacement stock and 10 percent, of sows and boars.

Although the amount of saccharose is not rationed, when making up rations, it is necessary to take into consideration that an increase in its dose has a negative effect on the secretion of digestive juices, on the digestibility of organic substance, in particular, of the ration protein and on the productivity of hogs. During the first week of life hoglings are unable to utilize saccharose and fructose. Therefore, lactose and glucose are the basic sources of carbohydrates during this period.

Since sugar beets are the basic source of saccharose, their optimum amount in rations for feeder hogs is considered 10 percent and of sows, 20 percent by the food value.

The need of hogs for fat is small, because it is synthesized in the body from fodder carbohydrates and proteins. Ordinary fodder or rations contain an average of 2 to 3 percent of crude fat. However, fat is not only a concentrated depot of energy for the body, but serves as a structural cell element as well. Some fatty acids (linoleic, linolenic and arachic) are not synthesized in the body and must enter with fodder. When they are deficient, disturbances in metabolism, diseases of the integument, a lag in growth and a decrease in hog productivity are observed. Fats and lipoids are beneficial for maintaining an appetite and a normal digestion. The optimum level of crude fat in the ration of hoglings is 3 to 3.5 percent and of adult hogs, 1.5 to 2 percent by the fodder mass.

Among the factors determining high-grade hog feeding mineral substances--macro- and micro-elements--are of great importance.

In metabolism organic and mineral substances are closely connected. Therefore, when organizing proper hog feeding, it is necessary to take into consideration the most favorable ratio of these substances in rations and to express the need for mineral substances per kg of dry substance or fodder unit.

In hog feeding it is necessary to control the content of calcium, phosphorus, sodium, potassium, iron, manganese, copper, cobalt and iodine in rations. These elements help to maintain normal vital functions in the hog body and often are deficient in ordinary fodder and rations, especially in calcium, and for hoglings, in iron as well.

Rational hog feeding is impossible without taking vitamins into consideration. Vitamin A or carotene, Vitamin D, Vitamin E, thiamine, riboflavin, nicotinic acid, pantothenic acid, choline and Vitamin B_{12}, which are deficient in fodder and rations for hogs of various production groups, are of the greatest importance. Hoglings and sows are especially sensitive to their deficiencies in rations during the gestation period.

When hogs are kept under the conditions of large hog breeding complexes, the need for vitamins increases.

Rations are balanced in individual vitamins by an appropriate selection of vitamin fodder, additives, premixes and concentrates.

Water is an important element in rational hog feeding. Its daily need in hogs varies within 0.04 to 0.12 liters per kg of live mass. When high-grade feeding is organized, watering is not limited.

An evaluation of the actual food value of fodder occupies a special place in the system of rational hog feeding and fodder production. Scientific investigations and practical experience have shown that all-Union reference data do not reflect the actual food value of fodder. Therefore, an organization of control over the quality of fodder is an important condition for an increase in the productivity of animals and a decrease in fodder expenditure.

Fodder grain plays an important role in the fodder balance for hogs. A considerable part of it is fed to hogs in unprepared form. The grain of cereal crops contains an insufficient amount of protein and of some vitamins and trace elements and protein is deficient in lysine. Therefore, feeding grain in pure form, or in the form of simple mixtures unbalanced in food elements, is the reason for the low productivity of animals and for the considerable overexpenditure of fodder and protein per unit of output.

The further increase in the production of plant protein should be ensured through the intensification of farming and increase in the yield of all crops, in particular grain crops, expansion of areas sown with pulse and oil crops and development and introduction of varieties and hybrids with a higher content of protein and an improved amino acid composition into production.

Pulse crops--peas, soybeans, lupine and so forth--are especially valuable protein crops. As compared with cereal crops, their grain contains twice to three times as much protein, five to six times as much lysine and twice as much methionine. However, the proportion of these crops comprises only 5 percent of the area of grain crops.

An increase in the yield of sown, especially perennial, grasses--lucerne, clover, sainfoin and melilot--and a rational utilization and increase in the productivity of natural fodder land are important potentials for increasing the resources of plant protein.

The existing methods of fodder harvesting and storage lead to losses of 25 to 30 percent of protein.

With the incomplete provision of hogs with grain fodder the procurement and utilization of grass meal acquire special importance. It can replace concentrates in hog rations up to 15 or 20 percent. Furthermore, grass meal is the cheapest source of carotene and protein.

During the summer period it is advisable to introduce green fodder, especially pulse crops, which are rich in protein, carotene and mineral substances, into hog rations. Hogs willingly eat and efficiently utilize root crops and melons.

Taking into consideration that root and tuber crops are poorly stored and losses reach 30 percent and more, it is advisable to utilize them for the preparation of mixed silage for hogs.

When high-quality mixed silage is included in rations, hogs' appetite improves and the secretory and motor function of the gastrointestinal tract intensifies. Hogs fattened with meat, in whose ration mixed silage comprised 30 to 40 percent by the food value, had 500 to 600 grams of gain in the live mass in 24 hours with an expenditure of 4.5 fodder units and up to 500 grams of digestible protein per kg of gain.

An exemplary structure of rations for hogs and the permissible amounts of some fodder and cellulose in a ration when the supply of fodder grain is insufficient are presented in the table.

A rational utilization of fodder is attained through its good preparation for feeding based on rations made up in accordance with the productivity of animals and the assortment of available fodder.

All fodder included in the daily ration for hogs should be fed in the form of a uniform mixture. Feeding correctly balanced mixtures of concentrated, succulent and coarse fodder with an addition of BVMD makes it possible to improve the utilization of fodder nutrients by 15 to 20 percent.

Concentrated grain fodder and the waste of technical production (oil cake and oil seed meal) should be fed in crushed form with a particle size of no more than 1 mm. The palatability, digestibility and utilization of nutrients in finely crushed concentrated feed are 8 to 12 percent better than in coarsely ground fodder.

The steaming or cooking of grain cereal fodder worsens the utilization of fodder nutrients by 10 to 15 percent and increases the cost of the ration as a whole. Pulse crops should be steamed to improve the digestibility of nutrients. Furthermore, fodder affected by fungi is cooked or steamed.

Sugar and fodder beets, mixed silage, squash and other succulent fodder should be ground (1 or 2 hours before feeding) to particles of 5 to 10 mm and fed in a mixture with concentrated fodder.

In zones where potatoes are included in a ration they should be fed in steamed or cooked form in a mixture with other ration fodder. Silaging steamed potatoes with an addition of 5 to 8 percent of leguminous grass by the hay mass is the best method of utilizing potatoes in hog feeding.

Coarse fodder is fed to hogs only in minced form in a mixture with other fodder included in a ration. At the same time, the total amount of cellulose should not exceed optimal values with respect to dry substance, otherwise the digestibility and utilization of nutrients are lowered.

Using overall methods of rational hog feeding, fodder preparation and its enrichment with nutritive and active substances, it is possible to greatly increase the efficiency of fodder utilization and the productivity of animals.

Animals	Structure of Rations by Food Value (%)				cellulose with respect to dry substance (%)	green fodder (kg)	grass meal (kg)	mixed silage (kg)	potatoes (kg)
	concentrate mixture	succulent fodder	grass meal	fodder of animal origin					
Barren and farrow sows	50-55	35-40	10	-	10-12	5-8	1.5-2	3-6	3-6
Sucking sows	60-65	30-35	5	-	8-10	5-6	1 -1.5	2-3	3-6
Sire boars	75-80	10-15	5	5	6-8	1-3	0.8-1.5		1-3
Runners	75-80	10-15	2	8	3-4		0.2-0.3		0.5-1
Fattened young stock	55-60	30-35	5	5	4-5	3-5	0.3-0.8	3-5	4-6
Young replacement stock	60-65	20-25	10	5	5-6	4-6	0.8-1.5	3-5	2-4

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INCREASE OF DAIRY HERD GIVEN HIGH PRIORITY IN ESTONIA

Tallinn SOVETSKAYA ESTONIYA in Russian 31 Jul 81 p 2

[Article by O. Saveli, chairman of the department for propagation of agricultural animals of the Estonian Agricultural Academy, candidate of agricultural sciences: "To Increase the Herds"]

[Text] As was noted at the 26th CPSU Congress, under the Eleventh Five-Year Plan animal husbandry is a shock front in rural work. The main provisions for the further development of animal husbandry were drawn up as early as the July (1978) Plenum of the CPSU Central Committee. The most immediate task is to increase the yield from forage cows in the country to 3,000 kilograms, and in republics with developed animal husbandry, to 4,000-5,000 kilograms. Despite the fact that the Estonian SSR heads the list of republics in terms of milk yields, this goal is serious, but it can be reached.

As early as 1977 the farms produced 3,648 kilograms of milk per forage cow, but the weakening of the feed base in 1978 and 1979 led to a reduction of the milk yield to 3,475 kilograms. In 1980 the average milk yield was 3,579. The state plan for 1981 envisions increasing the milk yield to 3,750 kilograms, or 171 kilograms more than the 1980 level. Consequently, this year each cow should produce 0.5 kilograms of milk more each day than they did last year. In order to reach 4,000 kilograms it will be necessary to increase the milk yield by another 0.7 kilograms. On the farms that have not yet reached a 3,000-kilogram milk yield (in 1980 there were 18 of these in the republic), the average daily addition should amount to 3-4 kilograms. Carrying out this task requires solving a complex of problems, particularly in reproduction.

Reproduction of the dairy herd means replacing the less productive cows with more productive first heifers. If the number of first heifers exceeds the number of culled cows, reproduction is expanded. Consequently, reproduction should provide for improved productive qualities and a larger number of cows, that is, it is a prerequisite for increasing milk production.

Despite the fact that many farms are successfully solving problems of reproduction, there are also tendencies which disturb both practitioners and scientists. These problems are: the fact that the dairy herd is becoming younger, the yield of first heifers is low, and the level of production and survival of young animals is low.

In cattle raising three indicators are taken into account to characterize the average age of the herd: the average age of the cows, the age of culled cows and the age at first calving. According to our data, the average age of the cow has decreased by 11 months during the past 15 years. The age of culled cows has decreased even more. What is the main reason for this--the early culling or the large introduction of first heifers into the main herd? If it were the latter, this would lead to an increased number of cows. During the Tenth Five-Year Plan the number of cows increased by only 1,600 head. Consequently, the reason is the early culling of cows. According to many data, the highest milk yield of the cows is achieved in the fourth-sixth lactations, but, on an average, they are culled before they reach this age. And it is not a matter of too strict selection in terms of productivity, since, according to the data from the investigation of productivity in 1979, 38.7 percent of the cows kept on the farms have a milk yield of less than 3,000 kilograms. Consequently, the culling could be even greater, but the number of first heifers limits this.

What factors lead to increased culling? If it is considered expedient to cull them because of age, low milk yield and infertility, then these factors would have remained at the former level or decreased. The tendency toward increased culling is brought about by diseases of the udder and extremities and metabolic disturbances. These diseases are closely related to the feeding and maintenance of the cows. Obviously the current structure of feeding (preponderance of concentrates) and the poor quality of feed rations lead to a deterioration of the health of the cows. Year around maintenance of cows in stables or in multi-purpose cubicles intensifies these processes. Veterinary and sanitary measures have not been fully worked out for large complexes.

The average milk yield of the cows depends largely on the productivity of young cows, since their importance in the herd is increasing each year. For example, in 1969 40.3 percent of the milk came from cows in the first and second lactations, and in 1979--50.5 percent. But the productivity of the first heifers has increased insignificantly: from 2,585 kilograms to 2,880 kilograms. The main reason for this is the unsatisfactory raising of calves.

By comparing the average live weights of calves in terms of age groups one becomes convinced that the indicators have remained at the 1969-1970 level or have even decreased. It is typical to have lower weight gains in the first year of life. Scientific research and the experience of the leading farms prove that it is very important to have intensive feeding of calves during the first 12-15 months, and then they can be fed moderately. Such calves develop uniformly, are capable of reproducing on time and produce high milk yields. Too much feeding in the second year or during pregnancy in order to compensate for the poor development and growth of the young animals leads to their becoming fat. Such a cow is not capable of producing large milk yields and the time of its utilization is short. Unfortunately, this is the situation on many farms.

The creators of the highly productive herd of P. Kibe (Estoniya Kolkhoz in Paydeskiy Rayon), S. Pallon (Pydrangu Sovkhoz) and specialists of the Vyandraskiy Experimental Sovkhoz provide an example of an intelligent attitude toward raising young animals. First of all they provide the young animals with high-quality feeds in order to reach average daily weight gains of more than 700 grams.

First heifers that are raised under these conditions produce more than 4,000 kilograms in the first lactation, and some of them even produce 8,000 kilograms. The increased milk yield provides farms with an additional quantity of whey as a reserve of animal protein for raising young animals.

A low level of productivity of first heifers is also related to the fact that it is not the most valuable calves that are introduced into the main herd, but calves of average or even low average quality. The genetic potential of the animal is formed from information obtained equally from the father and the mother. Almost all calves come from highly productive sire bulls of the artificial insemination station, and most of them have proved to be very good. But the maternal side leaves something to be desired. As data show, 50-60 percent of the calves that are born enter the main herd. If they are carefully selected, their genetic potential should enable them to surpass the average milk yield for the herd by 300-400 kilograms. But this level is reached only on those farms where the calves are well cared for and maintained.

In 1977-1980 in the republic there were 85-86 calvings per 100 cows, of which only 76-78 calves lived. The attrition rate of calves on the farms is high. According to data of scientists from the Estonian Scientific Research Institute of Animal Husbandry, it is 7.8 percent, and 11.3 percent of the calves are slaughtered. If one adds to this the number of still births (9.3 percent) then it turns out that 28.4 percent of the cows do not produce calves for reproduction of the herd. Such losses lead to a situation where it is necessary to include all the others in the main herd. Here, understandably, it is impossible to have any breeding selection. Consequently, calves of average and low average quality enter the main herd.

An efficient system of cattle raising envisions raising them and transferring them for milking during the first lactation. A shortage of first heifers leads to a situation where selection is less intensive and cows that produce less milk remain in the herd.

A high output and survival rate of calves, and also intensive raising of young animals are prerequisites for selection and reproduction of the dairy herd. For example, on the Estoniya Kolkhoz in Paydeskiy Rayon they obtained 85-86 calves per 100 cows. Of the calves that were born, 5-6 percent died or were slaughtered on the farm, 7-8 percent were sold for meat, and 51-53 percent were introduced into the main herd. Additionally, 35 percent of the calves remained and were sold as breeding animals to other farms. Thus is was possible to rejuvenate their own herd, and also the herds of other farms.

Here we have only touched on the most important problems of cattle raising that are related to reproduction.

It has been proved in experiments conducted on the Vyandra Kolkhoz that the genetic potential of our breeds is high. Because of good care of the animals and balanced feeding, the average milk yields here were almost 10,000 kilograms, and the record was 14,000 kilograms of milk. If one take into account that the Vyandra herd is renowned for many years for propagation of livestock, it becomes clear that on each backward farm the genetic potential of the livestock makes it possible for them to produce more than 4,000-5,000 kilograms. This can be achieved with cooperation on the part of all specialists and also with more effective publicity of advanced practice.

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UZBEK MINISTER OF AGRICULTURE STRESSES FOOD PRODUCTION

Tashkent EKONOMIKA I ZHIZN' in Russian No 2, Feb 81 pp 8-12

[Article by A. Urkinbayev, minister of agriculture for Uzbek SSR: "For the All-Union Food Fund"]

[Text] The highest goal of the party's economic strategy is that of realizing steady improvements in the material and cultural level of the people. Agriculture has always played and will continue to play a great role in achieving this goal. This is why, in carrying out the program of the March (1965) Plenum of the CC CPSU, the party is persistently laying the foundation for modern agricultural production, which will promote the complete satisfaction of the requirements of our Soviet people.

In the all-union division of labor, our republic is the chief producer of cotton, required by many branches of industry. In carrying out their international obligation in behalf of the country, the farmers of Uzbekistan are annually increasing their production of this valuable technical crop.

In particular, the Tenth Five-Year Plan was marked by considerable success in cotton growing, with the country's national economy being supplied with 28.5 million tons of raw cotton. This was 4 million tons more than during the preceding 5 years. In 1980, our republic crossed the 6 million threshold for the very first time, having grown, harvested and sold to the state more than 6.2 million tons of raw cotton. The gross yield of fine fibred cotton increased by a factor of 1.5 during the five-year plan.

Rather notable is the fact that approximately 70 percent of the increase in cotton was obtained as a result of improved cropping power, which in 1980 amounted to a record average figure for the republic of 33.2 quintals per hectare. The leading rayons -- Gizhduvanskiy, Peshkunskiy, Shakhrisabzskiy, Pakhtachiyskiy, Shurchinskiy, Galabinskiy, Urgenshskiy, Khankinskiy, Yangiarykskiy and some others harvested from 41 to 44 quintals per hectare. A thorough study and extensive dissemination of the experience of these rayons and those leading and highly productive kolkhozes and sovkhozes which surpassed the 50 quintal figure -- this represents a strong reserve for improving cotton production in the republic during the Eleventh Five-Year Plan.

In the future, the republic must increase its production of raw cotton. Thus, of the average annual volume of 9.2-9.3 million tons which must be achieved during the new five-year plan by all of the cotton growing republics, Uzbekistan must furnish no less than 5.9 million tons, including 400,000-420,000 tons of fine fibred cotton. Thus our principal concern in the years ahead will be that of achieving uniform development for our cotton growing operations.

But agriculture in our republic is not limited to cotton alone. While successfully developing this leading branch, our rural Uabek workers are annually increasing their production and deliveries to the all-union food fund of rice, vegetables, fruit, melons, grapes and other products. Increases are also taking place in the production of meat, milk and eggs.

Thus, during the years of the past five-year plan the average annual production of fruit and vegetables increased by a factor of 1.5. More than 21 million tons of fruit and vegetable products were produced, thus exceeding the planned task to a considerable degree. The principal components for success in this branch -- specialization and concentration of production, both of which serve to promote considerable growth in the cropping power of the crops.

Animal husbandry underwent rapid development. In 1980 and compared to 1975, 27 percent more meat was procured, 44 percent more milk and 63 percent more eggs. Increases took place in the numbers of all types of livestock and poultry and their productivity was raised. The successes achieved are quite obvious to us and yet the requirements of the republic's population for animal husbandry products, especially meat, are still far from being satisfied completely. The fact of the matter is that in animal husbandry, just as in other branches, in addition to farms which annually achieve fine yields and high productivities for their animals, there are still many kolkhozes and sovkhozes where the capital investments are increasing and yet the production of goods is either increasing extremely slowly or standing still.

The party has assigned the task of intensifying the role and responsibility of the republics, krays, oblasts and rayons in connection with the formation of an all-union food fund and also satisfying the population's requirements for food products.

In describing the food program during the October (1980) Plenum of the CC CPSU, Comrade L.I. Brezhnev stated that the problem is one of joining together the problems concerned with the development of agriculture and the industrial branches which serve it, procurements, storage, transport operations and the processing of agricultural products and the problems associated with the development of the food industry and the food goods trade. This agroindustrial food complex will be planned, financed and controlled as a single entity, while ensuring high final results, that is, it will represent a substantial improvements with regard to supplying the people with food products.

Our republic can and must make a more worthy contribution towards carrying out the all-union food program. Let us take once again our main branch -- cotton growing. Cotton, in addition to being fibre, also provides seed which in turn provides vegetable cotton oil which is used not just in our own republic. To produce 480,000-485,000 tons of vegetable oil in 1985 -- such is the task of the Uzbek SSR, as recorded in the CC CPSU plan "Basic Directions for the Economic and Social Development of the USSR During the 1981-1985 Period and for the Period Up To 1990." The fulfillment of this task will require the combined efforts of the cotton growers and workers attached to the cotton ginning and oil and fat industry.

Serious thought must be given to all factors associated with the status and further development of animal husbandry. The task of our republic during the Eleventh Five-Year Plan consists of achieving an average annual production of 400,000-410,000 tons of meat (in dressed weight) and 2.5-2.7 million tons of milk. For comparison, allow me to cite indicators achieved earlier: during the 1971-1975 period, an average of 172,500 tons (in live weight) of livestock and poultry were sold annually for slaughtering and during the 1976-1979 period -- 221,100 tons. The average annual production of milk during the Ninth Five-Year Plan was 533,900 tons and during the Tenth -- 759,900 tons. Thus the task is being assigned of achieving an unprecedented improvement in the production of animal husbandry products during the new five-year period.

The solving of this task requires that a noticeable improvement be realized in supplying the republic's population with meat and milk by means of internal production and in this manner to make a worthy contribution to the all-union fund for distributing these valuable food products. This requires that all available reserves be placed in operation.

Ampng them -- raising the efficiency of active fattening and dairy complexes, reproducers and the rapid placing in operation of projects under construction. The program aimed at achieving production specialization and concentration in animal husbandry and converting it over to an industrial basis has fully proved its worth. It is only necessary to cite the following example: the average daily weight increases for large-horned cattle at the kolkhozes and sovkhozes range from 280 to 300 grams and at complexes -- 600 to 800 grams. The difference is impressive!

Even better indicators are to be found at the better animal husbandry enterprises of the industrial type. For example, at the imeni 50-Letiya VLKSM [All-Union Lenin Young Communist League] Complex for the Fattening of Large-Horned Cattle in Akhangaranskiy Rayon, a daily weight increase of more than 800 grams was obtained against a plan calling for only 750 and the average delivery weight for the animals was 369 instead of 350 kilograms.

A high return is being obtained here from the feed consumed. For each kilogram of weight increase, 5.8 feed units are being expended -- 1 feed unit less than the norm. The same can be said regarding labor expenditures: against a planned 6.4 man-hours per quintal of weight increase, 5 man-hours are actually being expended. The experience of this farm reveals that the fattening of livestock can be a profitable endeavor: against a planned production cost per quintal of weight increase of 115 rubles and 85 kopecks, the actual production cost here is 139 rubles and 30 kopecks.

Work is carried out with a high degree of efficiency at the Zarafshan Industrial Complex in Bukharskaya Oblast, where up to 60,000 sheep are fattened annually. Moreover, in addition to meat, this enterprise furnishes more than 20,000 Persian lamb furs annually. This represents a truly thrifty and zealous approach to the work.

However, a number of active complexes have still not attained their planned production levels for meat and milk. There is a shortage of brood stock. The problems concerned with a maintenance technology for the livestock have still not been solved fully. In a number of areas there is a shortage of skilled specialists required for servicing the complicated animal husbandry equipment. The latter circumstance causes frequent breakdowns of the equipment and extended idle time for the mechanisms and this results in many operations having to be carried out manually. This leads to great expenditures of labor and resources for the production of a unit of output.

Priority tasks include improving the operations of those complexes engaged in raising brood stock and the rapid entry into operations of organizations for training personnel in the servicing of animal husbandry equipment. This will make it possible to realize a great return from the work carried out.

Another strong reserve for increasing the production of meat and milk is that of raising the productivity of the animals at the kolkhoz and sovkhoz farms. They are still furnishing the greatest proportion of animal husbandry products being produced in the republic. The situation here is such that in addition to those farms which are obtaining high milk yields and weight increases, there are many kolkhozes and sovkhozes, especially in Khorezmskaya Oblast and in the Karakalpakskaya ASSR where the productivity of the animals is low and meat and meat and milk production continue to remain unprofitable. And in 1980 the sovkhozes in the Karakalpakskaya ASSR and in Namanganskaya and Surkhandar'inskaya Oblasts even lowered their sale of meat to the state compared to 1979.

Meanwhile, within the republic there are not only individual farms but even entire rayons, such as Kuvinskiy Rayon, and even oblasts, for example Tashkentskaya Oblast, where the productivity of animal husbandry is increasing from year to year and production expenses are decreasing. Thus the shortcomings which exist in this work are explained not only by objective factors but also by the lack of proper attention being given to animal husbandry by individual leaders.

In our republic, the main task of which is cotton production, there are practically no natural grazing or haying lands in the valleys and the grazing and haying lands which are available in the semi-desert and desert zones are very scanty. Here the problem of supplying the livestock with feed is very acute. Under such conditions, the only solution is that of developing feed production in every possible way and expanding the feed fields in the crop rotation plans. Cotton-alfalfa crop rotation plans, assuming a high return from the areas, occupied by forage crops, not only promote a strengthening of the feed base and an increase in meat and milk production, but in addition they raise the cropping power of the cotton and improve the fertility of the land.

Within the republic there are hundreds of kolkhozes and sovkhozes which are obtaining from their crop rotation fields 100 quintals of corn for grain and 200 quintals of alfalfa per hectare in a conversion for hay. The introduction of crop rotation plans and raising the cropping power of the forage crops to the level achieved by the leading farms -- this is equivalent to doubling the production of feed and creating a reliable foundation for carrying out the tasks of the Eleventh Five-Year Plan.

Great reserves for strengthening the feed base are to be found in retaining the nutritional value of the feed during the harvesting, processing and storage operations. Only in this manner will it be possible to raise sharply the production of animal husbandry products based upon use of the same feed fields.

For the Eleventh Five-Year Plan and the following 5 years, the party has assigned the task of attaching a specialized branch character to feed production at the kolkhozes and sovkhozes, with special attention being given to having the farms produce their own feed. By achieving specialization in feed production, we are creating an independent branch. Operating on the basis of cost accounting principles, it will produce feed in ever increasing volumes and on a self-repayment basis. The creation of an independent feed procurement branch will ensure the prerequisites required for the training of specialists and make it possible to achieve a better balance in the feed.

It is appropriate at this point to mention the experience of the Kolkhoz imeni 50-Letiya Uzbekskoy SSR (Tashkentskaya Oblast). A marketable-milk farm of this enterprise is obtaining almost 5,000 kilograms of milk annually from each of 400 cows. Pure-bred animals are being bred at this farm and they are being tended by expert specialists, including the well known milkmaid, Hero of Socialist Labor and State Prize Laureate Minovar Isakova. Here there is always an adequate supply of feed. But this is not the problem. Here there is always an adequate supply of balanced feed that ensures scientifically sound feeding of the animals. This leads to a reduction in the expenditure of feed per unit of output: just slightly more than 1 feed unit is being consumed here per kilogram of milk.

At the majority of kolkhozes and sovkhozes, 2.5-3 times more feed units are being consumed per kilogram of milk. Since feed expenditures represent more than one half of all expenditures for meat and milk production, on those farms where the feed is not balanced in terms of components the feed over-expenditures are often doubled or even tripled. Is it any wonder then that animal husbandry operates at a loss here?

Forage crops rich in protein warrant greater attention. Those farms which annually are increasing their production of hay and alfalfa haylage have achieved noticeable improvements in developing their animal husbandry operations. Such crops as peas, soybeans, rape and others are quite properly considered to be high protein crops. The majority of them have clearly proved their worth under our conditions in secondary and intermediate sowings. This experience must be disseminated on a more extensive scale during the new five-year plan.

Many scientists throughout the republic are working on those problems concerned with increasing production and balancing the feed and, in particular, on the protein problem. Their experience underscores the high effectiveness of preserving green alfalfa using organic acids, with the nutrients contained in the alfalfa being retained almost completely. This served to prove the high effectiveness of hydrolytic yeasts as a feed additive rich in vitamins. Their introduction into the animal rations, on the order of 3-5 percent, raises the productivity of the animals by 8-12 percent.

The introduction of scientific achievements into production operations represents one more reserve which must be placed in operation.

An efficient lever for raising agricultural production and strengthening the kolkhoz and sovkhoz economies is that of a complex of measures aimed at raising the level of planning work in agriculture and material incentives in the production and procurement of agricultural products. The consistent and persistent implementation of the decree of the CC CPSU and the USSR Council of Ministers concerning this matter, adopted in December of last year, will make it possible to raise sharply the efficiency of social production and strengthen the role played by intensive factors in the development of the agroindustrial complex.

The workers in Kalininskiy, Chinazskiy, Bakhmal'skiy and other rayons discussed the CC CPSU plan for the 26th party congress and they displayed a proprietary interest with regard to increasing our republic's contribution towards carrying out the all-union food program. In the process, they uncovered reserves and opportunities which enabled them to undertake high socialist obligations for increasing the production of animal husbandry products during the Eleventh Five-Year Plan. Thus the livestock breeders in Kalininskiy Rayon resolved to double their production of meat, milk and eggs compared to 1980. The obligation undertaken by the workers in Chinazskiy Rayon -- to increase meat production by a factor of two, milk -- by a factor of 1.8 and eggs -- by twofold. And in Bakhmal'skiy and Bozatauskiy Rayons, meat production will increase: by a factor of 2.5 in the former and by a factor of 2.2 in the latter.

There can be no doubt but that the example set by these rayons will be followed extensively and provide a new stimulus towards the launching of a socialist competition for the successful fulfillment by the republic's kolkhozes and sovkhozes of the great and responsible tasks associated with increasing the production of meat, milk and eggs during the new five-year plan.

Other branches of the republic's agriculture -- grain economy, vegetable production, viniculture, melon production -- will make a substantial contribution towards the all-union food fund. Specific tasks for these branches during the new five-year plan are as follows: to achieve an average annual production of 2.8-3 million tons of grain, 2.4-2.5 million tons of vegetables and to accelerate the development of viniculture and fruit and melon production.

The goals which the workers in these branches must aim for are important and complicated. However, they are based upon results already achieved. The average annual yield of grain during the Tenth Five-Year Plan increased throughout the republic to 2.16 million tons. This is greater by a factor of 2.3 than the average annual amount produced during the Ninth Five-Year Plan. The volume of state grain procurements during 1980 amounted to approximately 1 million tons, including 380,000 tons of rice -- 33,400 more tons than in 1979. In short, grain production in our republic is proceeding at a fine rate of development.

The main reserves of the grain economy -- raising cropping power and expanding the areas, particularly those for rice along the lower reaches of the Amudar'ya River and corn for grain, which under our conditions must furnish not 60-70 but rather 100 or more quintals of grain from each hectare.

The vegetables, melons, fruit and grapes produced in Uzbekistan are praised for their taste qualities. Each year the field workers are growing, procuring and shipping greater quantities of these products to other republics. During the years of the Tenth Five-Year Plan, against a plan calling for 10.7 million tons, 13.1 million tons of vegetables, melons, fruit and grapes were sold to the state.

A further acceleration in the rates of growth for the production of these types of agricultural products during the Eleventh Five-Year Plan will enable our republic to increase considerably its contribution to the all-union food fund. This will require increases in cropping power and improvements in the procurement, storage and trade in fruit and vegetable products.

The reserves for increasing such production will first of all be sought in raising the average republic cropping power to the level achieved by leading farms. Thus, at the Kolkhoz imeni Engel's in Samarkandskiy Rayon, a stable yield of 450-500 quintals of vegetables was obtained from each of 327 hectares. This was greater by twofold than the amount obtained at a majority of the republic's kolkhozes and sovkhozes. At the Kitab Sovkhoz in Kitabskiy Rayon, 250-300 quintals of grapes are being obtained per hectare and at the Moskva Kolkhoz in Samarkandskiy Rayon -- 170-190 quintals of fruit.

During the years of the Tenth Five-Year Plan, improvements were realized in supplying the population with tomatoes, cucumbers, cabbage and onions during the late autumn, winter and early spring periods. This was promoted by an expansion of the greenhouse areas. Compared to the end of the Ninth Five-Year Plan when there were only 65 hectares of greenhouse area, at the present time this figure has been increased twofold. Accordingly, an increase has taken place in the production of greenhouse vegetables: from 43,000 quintals in 1975 to 182,700 quintals in 1980.

During the past few years, the construction of lemon groves (trench and glass hothouses) has been expanded at kolkhozes and sovkhozes throughout the republic. At the beginning of the Tenth Five-Year Plan, they occupied only 3-4 hectares and now -- 89.7 hectares.

The development of citrus fruit production in the republic is associated with the name of a popular plant breeder, Zaynutdin Fakhrutdinov. He bred new varieties of lemons, he developed a technology for obtaining high yields and he proved that citrus fruit production in Uzbekistan, assuming that the work is organized properly, can become a highly profitable branch of agriculture.

Citrus fruit production is becoming increasingly popular throughout the republic. The first phase of the Navruz Interfarm Complex for Subtropical Fruit, an area of 25 hectares, has already been built in Surkhandar'inskaya Oblast and during the next few years the plantings here will occupy no less than 100 hectares. It is believed that the time is not far off when we will be able not only to satisfy fully the requirements of the republic's population for lemons but in addition we will be able to supply them to the all-union fund.

A guarantee for successful implementation of the food program is that of proper coordination of the work carried out by all units of the agroindustrial complex: not only of agriculture itself, but also of the branches which satisfy its requirements for diverse items of equipment, fertilizers, chemical preparations, mixed feeds, production-technical services and also those branches associated with the procurement, transporting, storage and processing of the agricultural raw materials. The scale of this task is described by the fact that the branches associated with agriculture account for more than two thirds of the entire volume of industrial production in Uzbekistan.

Up until recently, many elements in this complex functioned in an uncoordinated manner and this led to miscalculations and disproportions. Its transformation into a single object for planning and control will make it possible to establish economically sound production contacts between the agrarian sector and other branches of the national economy and in this manner achieve more efficient use of material and labor resources, in the interest of achieving the final goal -- obtaining a maximum amount of food products, clothing, footwear and high quality raw materials, with minimal expenditures required for producing them.

The party's program for accelerating the economic and social development of the country during the Eleventh Five-Year Plan and during subsequent years up to 1990 will be warmly approved and supported in every possible way by the agricultural workers of Uzbekistan. They are fully resolved to devote all of their strength, knowledge and expertise towards increasing the production not only of cotton but also meat, milk and fruit and vegetable products. In this manner they hope to make a worthy contribution towards improving the welfare of the Soviet people and supplying them with food products.

This will be the best response by the farmers of our republic to the decisions handed down during the 26th CPSU Congress and the 20th Congress of the Communist Party of Uzbekistan.

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MODEL CONTRACT FOR PURCHASE OF LIVESTOCK IN PRIVATE SECTOR

Moscow EKONOMICHESKAYA GAZETA in Russian No 17, Apr 81 p 17

[Text] Additional Source for Animal Husbandry Products

On 12 March 1981 the USSR Ministry of Agriculture, USSR Ministry of Finances, USSR Ministry of Procurements and the USSR CSA approved standard contracts for the procurement of livestock and poultry and surplus milk and also for the raising of livestock and poultry on the private plots of citizens. Today we are publishing the contents of a standard contract for procuring livestock and poultry from the private plots of citizens. The standard contracts for procuring surplus milk and for raising livestock and poultry on the farms of citizens will be published in forthcoming issues of the weekly.

STANDARD CONTRACT

For Procuring Livestock and Poultry From the Private Plots of Citizens
by Kolkhozes, Sovkhozes and Other Agricultural Enterprises

"___" __________ 198__year

____

(name of populated point)

____

(name of kolkhoz, sovkhoz or other agricultural enterprise)

____________________referred to subsequently as "farm", in the person of

____

(position, last name, first name, middle name)

acting on the basis of______________________________
(name of document which authorizes concluding of contract)

on the one hand, and the citizen (male or female)____________________
(last name, first name, middle name)

residing at____________________________________
(name of populated point)

Passport series ______ No. ________ issued by ______________________________
(branch of militia which issued passport)

referred to subsequently as "citizen" (male or female) on the other hand concluded the following contract.

1. Citizen (male or female) Is Obligated:

1.1 To raise and sell the following livestock and poultry to the farm:

No.	Type of Livestock and Poultry	Number of Head	Live weight Per Head (kilograms)	Overall Live Weight (kilograms)	Sales Schedules for Livestock and Poultry (month, year)
1.					
2.					
3.					
4.					

1.2 To pay for the services rendered by the farm (tilling of land, procurement and delivery of feed and so forth) and for construction materials allocated -- according to prices paid by the farm, including expenses for deliveries but no higher than state retail prices and for feed -- according to prices mentioned in 2.1

2. Farm Is Obligated:

2.1* To sell internally produced feed to the citizen (male or female) for the raising of livestock and poultry -- grain according to state procurement prices, other feed according to the planned production costs and purchased feed -- according to the procurement prices, including delivery expenditures and in the following amounts:

No.	Type of Feed	Schedule For Sale of Feed	Amount (kilograms)	Price Per Kilogram (rubles)	Overall Cost (rubles)
1.					
2.					
3.					
4.					

2.2 To procure raised livestock and poultry in the amounts and according to the schedules indicated in 1.1 and to settle the account with the citizen (male or female) within a 10 day period.

2.3 To pay for each kilogram of live weight, minus a deduction for the content of the gastro-intestinal tract, according to the prices agreed upon but no higher than the established state procurement prices for livestock and poultry of similar condition:

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* The feed can be released to the citizen (male of female), with subsequent payment for its cost upon final settlement of the account for the livestock and poultry raised for the farm.

(the prices for livestock and poultry of similar condition are pointed out)

2.4 To present the citizen (male or female), for the duration of the present contract and as deemed necessary, an additional tract of land of ____ hectares, for the raising of forage crops either on private plot land or on land temporarily not being used by the farm.

2.5 To provide the citizen (male or female) with a tract of land for ____________
(indicate period)
years for obtaining hay in the amount of ______ hectares and a tract of land for the grazing of livestock and poultry (geese) in the required amount for
_______________ years and to furnish him (her) with assistance in raising the
(indicate period)
productivity of these lands. Towards this end:

(the types and volume of services are pointed out)

2.6* When necessary, to provide the citizen (male or female) with assistance, in the established manner, in the construction and equipping of facilities for the maintenance of livestock and poultry, to provide horses and other transport and technical equipment used in tilling the tract of land and for procuring and delivering the feed and to ensure that the farm's specialists provide zooveterinary services for the livestock and poultry:

(the types and volume of services are pointed out)

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* The rendering of other services not mentioned in 2.6 of this contract and the mutual accounts for them are carried out by agreement of the parties involved.

2.7 To present the citizen (male or female) (if he or she so desires) with a monetary advance using USSR Gosbank credit, for use in acquiring the implements, materials and light mechanization equipment required for the production of agricultural products in conformity with the present contract, in the amount of _________ rubles.

3. The document by means of which the farm accepts livestock and poultry from a citizen (male or female) is approved by the kolkhoz administration (the director of a sovkhoz or other state agricultural enterprise).

4. According to the contract, the property responsibility of the parties involved for the fulfillment or improper fulfillment of obligations is determined in conformity with civil legislation.

5. The contract is accordingly prepared in two copies one of which is given to the farm and the other -- to the citizen (male or female)

(last name, first name, middle name)

6. Disputes which arise in the execution of this contract will be resolved in the prescribed manner.

7. The contract enters into force once the parties involved have signed it.

Chairman of Farm	Citizen (male or female)
(Signature)	(Signature)

Place for Seal.

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CSO: 1824/386

AGRO-ECONOMICS AND ORGANIZATION

MODEL CONTRACT FOR PURCHASE OF SURPLUS MILK IN PRIVATE SECTOR

Moscow EKONOMICHESKAYA GAZETA in Russian No 18, Apr 81 p 19

[Text] In Issue No. 17 of the weekly for this year, a standard contract for the procurement of livestock and poultry from the private plots of citizens was published. Today we are publishing a standard contract for the procurement of surplus milk from the private plots, approved by the USSR Ministry of Agriculture, USSR Ministry of Procurements, USSR Ministry of Finances and the USSR CSA.

STANDARD CONTRACT

For Procuring Surplus Milk From the Private Plots of Citizens by Kolkhozes, Sovkhozes and Other Agricultural Enterprises

"____" ____________________ 198___year

____

(name of populated point)

____

(name of kolkhoz, sovkhoz or other agricultural enterprise)

______________________________referred to subsequently as "farm", in the person of

____

(position, last name, first name, middle name)

acting on the basis of______________________________________
(name of document which authorizes concluding of contract)

on the one hand, and the citizen (male or female)______________________________
(last name, first name, middle name)

residing at____
(name of populated point)

Passport series _____ No. ______ issued by ______________________________
(branch of militia which issued passport)

referred to subsequently as "citizen" (male or female), on the other hand, concluded the following contract.

1. Citizen (male or female) Is Obligated:

1.1 To sell surplus milk to the farm during 198__ in the amount of ____ kilograms, including by quarters: 1st quarter ____ kilograms, 2d quarter ____ kilograms, 3d quarter _____ kilograms and 4th quarter ____ kilograms.

1.2 To sell milk which meets the quality requirements imposed for milk, in the case of state procurements of marketable surplus milk from the plots of kolkhoz members, sovkhoz manual and office workers and other citizens having cows for their private use.

1.3 To pay for the services rendered by the farm (tilling of land, procurement and delivery of feed and so forth) in accordance with their planned production costs at the farm and for feed -- in accordance with the prices pointed out in 2.3.

2. Farm Is Obligated:

2.1 To ensure the timely acceptance of milk from the citizen (male or female).

2.2 To pay for the milk accepted in accordance with the prices agreed upon, but no higher than the established state procurement prices for milk and to settle accounts no less often than once a month.

____

(the price for milk having a basic fat content is pointed out)

2.3 To sell internally produced feed to the citizen (male of female) -- grain according to the state procurement prices, other feed according to the planned production costs and purchased feed -- according to the procurement prices, including delivery expenditures and in the following amounts:

No.	Type of Feed	Schedule For Sale of Feed	Amount (Kilograms)	Price Per Kilogram (rubles)	Overall Cost (rubles)
1.					
2.					
3.					
4.					

2.4 To present the citizen (male or female) a tract of land for ______________ (indicate period) years for hay mowing purposes in the amount of _____ hectares and a tract of land for the grazing of livestock in the required amount for ______________ (indicate period) years and to furnish him (her) with assistance in raising the productivity of these lands. Towards this end:

____

(the types and volume of services are pointed out)

____

____

2.5* When necessary, to furnish assistance to the citizen (male or female) in the procurement and delivery of feed, in tilling the private plot and so forth, for which purpose horses and other transport and technical means of equipment are to be made available and to ensure that the farm's specialists provide zooveterinary services for the livestock.

2.6 To present the citizen (male or female) (if he or she so desires) with a monetary advance using USSR Gosbank credit, for use in acquiring the implements, materials and light mechanization equipment required for the production of agricultural products in conformity with the present contract, in the amount of ______ rubles.

3. The property responsibility of the parties involved for the fulfillment or improper fulfillment of obligations is determined in conformity with civil legislation.

4. The contract is prepared in two copies, one of which is given to the farm and the other -- to the citizen (male or female) ________________________________

(last name, first name, middle name)

5. Disputes which arise in the execution of this contract will be resolved in the prescribed manner.

6. The contract enters into force one the parties involved have signed it.

Chairman of Farm	Citizen (male or female)
________________	________________
(Signature)	(Signature)

____

(Place for seal)

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* The rendering of other services not mentioned in 2.5 of this contract and the mutual accounts for them are carried out by agreement of the parties involved.

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DATE FILMED

11 Sept 1981